FOREST REPORT

for

Yakima Indian Reservation

1914

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Personal

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ANNUAL FORESTRY REPORT

-1914-

A report on matters pertaining to the protection and utilization of the forested area of the Yakima Indian Reservation, together with improvements both completed and proposed.

Since no report was requested in 1913 I am submitting a report for both 1913 and 1914 under the same cover.

Figures corrected Jan 23, 1917 gjs. See L. Status F. No 2.

LAND STATUS

From an administrative standpoint the forested area of this reservation covers ~~542,000~~ 542,868 ~~24,850~~ 518,018 acres. Of this area ~~29,950~~ 24,850 acres are deeded and are non-reservation lands and about ~~35,000~~ 78,280 acres are allotted. All deeded lands lie within that portion of the reservation acquired through Act of Congress dated Dec. 21,1904. This data is the most recent and should be used as a working basis until more accurate data is available. The forested area was obtained by platting the lower limits of the commercial coniferous forest. All deeded land data was secured from the local land office. All this area must be included if the forest is to be places on an efficient protective basis.

includes unmerchantable tract

THE FOREST

From the lower timber limits(2,000 feet) up to 5,000 feet elevation the forest is primarily yellow pine in type. In

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canyons and on north slopes the pine gives place to spruce, fir and other more tolerant species. Above 5,000 feet yellow pine gives place to lodgepole pine, white pine, hemlock, spruce, cedar and an occasional specimen of white bark pine and alpine hemlock. Extending below the coniferous forest is found a border strip of about 10,000 acres consisting of scattering yellow pine mixed with large quantities of scrub white oak(Q.garryana). In the canyons I have seen specimens of this oak twentyseven inches in diameter. However the trees are very defective. In the lower portions of this border strip alder and cottonwood take the place of the yellow pine. Streams may be followed in the lower valleys as far as one can see by the presence of oak, alder and cottonwood.

Lodgepole pine is small and inferior but is one of the most wide spread species upon the forest.(See report C.H.Dunston, 1912)

TIMBER ESTIMATE

The following figures represent the merchantable species of timber trees, the percent of each species in the stand, the number of thousand board feet above twelve inches in diameter B.H. and the value of each.

Species	% of stand	M.bd.ft.	Value
Yellow Pine(pinus ponderosa)	74	1,478,399.	$2,498,349.00
Dougl.Fir(Pseudotsuga taxifolia)	15.	299,675.	506,422.00
Western Larch(Larix occidentalis)	4.	79,913.	135,048.00
Engelmann Spruce(P. Engelmanni)	3.	59,935.	101,284.00
Western Hemlock(Tsuga heterophyl ls)	1.5	29,967.	50,642.00
White Fir (Abies grandis) (" concolor) " lasiocarpa(?))	.8	15,982.	27,009.00
White Pine(Pinus monticola)	.7	13,985.	23,635.00
Cedar (Thuja plicata)	.7	13,984.	23,633.00
Lodgepole Pine(Pinus contorta)	.5	5,998.	10,128.00
	100.00	1,997,836.	$3,376,148.00

These figures were compiled from data furnished by the appraising commission. In reality there is more white fir on the forest than is shown by the above figures since a very large part of this species was disregarded by the cruisers; it being considered commercially worthless. Trees below 12 inches in diameter were estimated as cordwood.

The total estimated value of the forest is therefore-

Timber-1,997,836,000 bd.ft. @$1.68 per M.ft.		$3,376,148.00
Cordwood 89,208 cords @ 25¢ per cord		22,302.00
		$3,398,450.00

The appraised stumpage value of the timber varies from $00.50 to $2.50 per M. feet according to quality and location. The average stumpage value is $1.68 per M. feet.

All mature, over 20,000,000 going to waste annually (see p. 4 utilization)

Insects

Insects have been the cause of an immense loss of first quality yellow pine timber upon this reservation. Fully eighty percent of the mature timber on four townships were attacked by the yellow pine butterfly(Neophasia menapia Felder) in 1893-95. After three consecutive years the trees became so weakened by defoliation that they fell an easy prey to the bark beetle (Dendroctonus ponderosa) which followed in the wake of the butterfly and was the direct cause of the destruction of the timber. A few of the butterflies appear every season,but are insufficient in numbers to cause concern. They make their appearance about the middle of July and disappear the latter part of August.

Scattering specimens of yellow pine are killed each year

by bark beetles. A rough estimate of two trees to the section killed averages an annual loss of 500,000 board feet. Owing to the over maturity of a large part of the timber the forest would be very susceptable to bark beetles under favorable conditions.

Utilization

From measurements taken from an occasional tree I have estimated the average annual volume growth percent to be about 1.2%. The average figures for yellow pine and Douglas fir are as follows-

	100 years D.b.h.	Grth.% in last 10 yrs.	200 years D.b.h.	Grth.% in last 10 yrs.	250 years Grth.% (interpolated)
Douglas Fir	15 inches	2.2 %	27.6 in.	0.9 %	0.5 %
Yellow Pine	10.7 "	2.1	22.8	1.4	0.9 %(interpol)

One specimen of yellow pine at 4500 feet elevation, although forty five inches D.B.H. is still making a growth of 1.41 %(Snyder's formula)

From the above figures I have estimated that the forest is making an annual growth of 23,960,000 board feet, which also represents the amount that is annually going to waste through lack of utilization. In reality there is more than this going to waste at the present time if the large areas of practically even aged over mature pine are considered. An estimate taken of this timber showed twenty five percent of the standards and veterans to be "stag headed".

Except through a large investment in logging operations the major part of the timber would be inaccessible. A preliminary cruise of the timber adjoining the Klickitat River was made in

1912 by the representative of a lumber company. A profile map of the river was also constructed at that time. Because of the variation in the stream flow and the amount of improvements necessary to make the river drivable recommendations were made in favor of railroad logging.

Timber Sales

No timber sales have been made upon this reservation. But two small sales have been considered in the past three years. The first was discussed by C.E.Dunston, Forest Examiner, in his report of June 10, 1912, the other by myself in a report of November 20,1912, a copy of which is herewith inclosed.

A request has been made to purchase a small amount of timber growing on eighty acres in Sec. 11, T6N, R14E. This land is in two isolated 40s within one half mile of the mill. The stand is about 185,000 feet of yellow pine.

Sawmills

Although there have been several sawmills upon the reservation at different times in the past there are none in operation at the present time. I have had the proposition of another mill brought up several times by Indians in the past two years. A mill has never been a paying proposition so far as I can learn. This seems to be largely on account of the inaccessibility of the timber and the disposition of most of the Indians toward lumber operations.

Four sawmills have been operated on the reservation in the past forty years. The first was a second hand mill

purchased in 1873 and was located in Section 20, T9N, R16E. This mill burned down in 1884 and was sold. A new mill was purchased from grazing journey Cattle) soon after and set up on practically the same site. It was later moved to a better stand of timber in Sec.25, T9N, R15E. where it was operated until destroyed by fire in 1892. A new and larger mill was purchased in 1893 and set up in the same site. At the same time a new, but smaller, mill was also set up in about Section 20, T7N, R17E on Logie Creek. Neither of the two mills were ever put into operation because of the lack of funds. After some years both these mills were dismantled Portions of both mills are located at the Agency, but the larger part of the smaller pieces have been lost, stolen, or used for various purposes. Much of the machinery is badly rusted as a result of the exposure to the weather.

Timber Permits

The first issuance of timber permits for the cutting of various kinds of wood was made in the fall of 1912. It was a difficult matter to explain to the Indians. Any restrictions along this line was and is distasteful to them and as I was was a new comer and unacquainted with the great majority of the Indians the installing of this system was difficult.

Very few Indians come of their own free will and ask for a permit to cut wood unless it is for sale to the Agency. Most of the permits are issued in the timber where the Indians are found getting out their wood. A very few are obstinate and will not give their names or any information sought.

Nov 12/14

NOTICE

TIMBER PERMITS TO WOOD CUTTERS

Prior to the cutting of any timber for any purpose whatever on the timbered portion of this reservation (Either allotted or tribal) it will be necessary for all Indians and white parties desiring such timber to obtain a permit for the same. These permits will be furnished on application to the Agency.

No charge will be made to Indians who cut wood for their own use. All parties not Indians will be charged at the following rates:

Cordwood, dry (4 x 4 x 8 feet)	25¢ per cord
" green(")	50¢ to $1.00
Fence posts, dry (6-8 ft x 6 inches)	½¢ each
" " green(")	1¢ "
Fence poles, dry (12 to 16 feet long)	½¢ "
" " green(")	2¢ "
Derrick timbers, dry	½¢ per lineal ft
" " , green	1¢ " " "
Hop poles, according to species	$2.00-~~$4.00~~ $3.00 perM

Applications by mail should give the amount and kind of material and the location of the place where such material is to be obtained. All payments are to be made in advance.

The following regulations must be observed:

1. Stumps shall be cut low; not higher than 18 inches if possible, and all trees taken to eight inches in the top where this is possible in order to avoid wasting the tree.
2. All brush and limbs cut from living trees shall be compactly piled away from living standing trees and reproduction in order to eliminate fire danger as much as possible and give a general appearance of neatness.
3. Permission must be obtained from both the Superintendent and the allottee before a permit will be granted to cut timber on an allotment.

JBS*S

Superintendent.

However the better class of Indians are taking more kindly to the system as they become better acquainted with it.

The following figures represent the amount of wood cut under permit for 1912 and 1913.

	Cordwood	Fence Posts	Fence Poles	Derrick and Bridge ti / mbers
1912	352.0ds.	1090		
1913	670.0ds.	3192	25	808 linear ft.

Notices are typewritten and posted in conspicuous places for the general information of the public. A sample of such notice is herewith inclosed. The best policy for the welfare of the forest is to place the prices on dead timber very low. The timber is quite inaccessible. Owing to the menace of this dead timber from the standpoint of fires and insects no obstacle should be placed in the way of the removal of all that can be taken. Over sixty percent of the wood used by ranchers and Indians is made from the dead timber. So long as the roads to the timber are passible wood is being hauled out. In order to enforce the permit system it will require the services of one man continnually during the fall and early winter months.

Forest Fires

During the summer of 1913 the fires upon this forest were severe. The difficulty in handling them lay not so much in the dry weather as it did to the fact that so many of them started at nearly the same time. Conditions were also very detrimental to the hiring of fire fighters(Annual Fire Report 1913)

It is claimed that the season of 1914 was one of the driest known in this part of the country. From June 30 to September 11 precipitation was entirely unknown in the lower part of the forest.

During July and August large fires were burning on the Columbia, and Rainier National Forests and on State and deeded lands to the south of the reservation. Only half hearted attempts were made to hold fires in check on State and deeded land. This necessitated our taking steps to prevent its crossing the south boundary of the reservation. One of the greatest aids was the sheep driveway along the south boundary. Thousands of sheep traveling along this trail either eat or trample all forms of grass out of existance and so mix the earth with other forms of combustable material that fires find difficulty in crossing. Fully seven miles of fire front was checked along the south side in this manner. About three miles of fire line were also constructed with team and plow. I might add here that the use of a heavy team and plow was an immense aid and saving in fire fighting. In most of the timber they were used to advantage and took the place of fully ten men in the construction of fire lines.

Owing to the large fires burning throughout the different forests during July and August the smoke was so dense that it was practically impossible for guards to locate fires from a lookout until they became too large for one man to handle. From one lookout during the latter part of August I was unable to see a fire although I knew that there were three burning within a radius of four miles.

Our first fire of any importance was discovered June 1. The last was discovered September 7. General rains came on

September 11, extinguishing all the fires. Outside help was unnecessary until July 25. A force of from six to 10 men together with team and plow were kept busy from August 2 to September 12. The total number of fires reported were 21, although there were nine small fires of which no report was made.

Cause.

No fires during this past season were caused by lightning. Many fires were caused by Indian campers and sheep men. The chief cause was undoubtedly the careless lighting of pipes and cigarettes. A considerable number were also caused by Indian campers going away and leaving their fires burning. Eleven fires occurred along roads, apparently the result of smoking.

The large majority of the worst fires occurred in Townships 6, 7, and 8 N., R. 13, 14, and 15, within the old insect infested area of 1890-95. A large percent of this dead timber is still standing. Fires within this area require careful attention, to prevent their breaking over the fire line.

Cost.

During the past season, subsistence and transportation was furnished to fire fighters. It resulted in an added expense of 24.2% but the result of the system certainly justified the added expense. Help was much easier and more quickly obtained, and the general conditions were immensely improved.

The following figures represent the relative costs in extinguishing fires during 1913 and 1914:

	1913	1914
Cost of Labor	$834.50	$1262.75
Cost of Supplies	------	246.66
	834.50	1509.41
Area burned	16048 acres	13539 acres

The average cost per acre for fire fighting including forest officers' time as well as temporary labor was 13.9¢ per acre for the area actually burned or .28¢ (28/100) per acre for the entire forest.

Damage.

The total damage estimated is as follows:

1.Timber destroyed (felled)	$4155.00
2.Timber injured (catface,etc.)	719.00
3.Reproduction, destroyed (seedling& sapling)	29965.00
4.Grazing, (mostly grazed before fire)	10.00
	$34849.00

Note-- Loss from grazing was based on the actual revenue received from grazers.

The damage to grazing lands is usually greater than the casual observer sees. Unless the land is invery favorable sites, grass does not make abundant growth, until the second or third year after the fire. Where areas are burned repeatedly in the lower country, the grass gradually gives place to fern and ceanothus which have no value from a grazing standpoint.

Very seldom ~~is~~ was reporduction entirely killed on extensive areas. Usually it is a process of thinning out the weaker and smaller specimens with more or less scorching of the older ones. This is especially true in yellow pine. Although a somewhat questionable basis to work from, the percent of reproduction killed was estimated and that proportion of the initial cost of planting necessary to

restock the area was figured as the loss. This sum was prolonged to the extent of the age of this reproduction at 3% compound interest.

The injury to saw timber was usually the catfacing of the trees. In case of two trees being in close proximity with each other, the fire usually resulted in a severe scar or catface. These scars becoming covered with pitch are always a future menace to the tree, since they readily burn out again with the least exposure to fire. From observations made, it appears that after about ten burnings in these catfaces, the tree becomes too thin to support the tree, and as result it falls then or during the seasonal windstorms. As such trees are usually inaccessible, I have estimated an average of 10% loss for each catfaced tree in a fire.

All timber which would become unmerchantable in the next few years as a result of the fire, was considered destroyed. All timber was valued at $1.68 per thousand, board feet. From samples taken on fire-burned areas the following table has been computed:

	Uninjured:	Felled by fire:	Cat faced:	Former dead trees still standing.
% of stand,	65%	3%	13% (Loss 1.3%)	18%
Value	$5.37	$ .61	$ .34(Loss)	----

The above table represents an average acre burned with a stand of 4,000 feet. The average loss in merchantable timber alone is therefore $ .95 per acre. The actual saving of merchantable timber on all areas protected is therefore $ .81 per acre over and above cost of fire fighting.

COUNTING SLIP.

(To be used only for sheep grazed on the Yakima Indian Reservation and not to be used in lieu of ~~cro~~ crossing permits.)

Name of owner_____

Whose address is_____

Number of sheep counted_____

Number of lambs counted_____

Number of cattle counted_____

Number authorized by permit:

_____sheep,_____lambs,____cattle.

Counted by me this__day of_____ 1914.

Signed_____

Title_____

Remarks: (Brand, condition, etc.)

Copy to be furnished owner of sheep

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(OVER)

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NUMBER SHEEP IN EACH BAND.

1. First Band; Brand_____

_____sheep,_____lambs,____cattle

In charge of_____

2. Second Band, brand_____

_____sheep,_____lambs,____cattle

In charge of_____

3. Third Band; brand_____

_____sheep,_____lambs,_____cattle.

In charge of_____

FOREST NOTES

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GRAZING REPORT.

On Yakima Indian Reservation, for Summer Season of 191____.

1. Name of Range_____

2. No. Sheep Grazed_____No. Lambs_____Date Lambs sold_____

3. Date entered Range_____, Condition of Sheep_____

4. Date Left Range_____, Condition of Sheep_____

5. Condition of Range on Entering_____
(forage, normal, late, early, etc.)

6.

Camp: No.	Name of Camp	No. days used	Date entered	Condition	*Class	Condition of bedding ground

Camps classed as early feed. (Numbers)_____
Camps classed as late feed_____

9. _____% of the range (____Days)classed as early feed (June 10 to July 30)
10. _____% of the range (____Days)classed as late feed (July 30 to Nov 10)
*11. Part of area classed as jungle range____%, Open timber range____%, Open swamp range____%, Open range____%.

12. Kinds of grasses and weeds predominant (1)_____
(2)_____(3)_____(4)_____

13. Kinds best eaten by sheep (1)_____(2)_____
(3)_____(4)_____

14. Area grazed over before grass seed has fallen_____%, or _____ Acres.

15. Remarks:

Examined by_____

Title_____

Date of this report_____

GRAZING.

Sheep grazing on the present forested portion of this Reservation began in about the year 1880. At that time large portions of the country were fired to improve the grazing conditions. Some of these areas are still destitute of ~~xxxx~~/reproduction, (See Fig. 10). Until taken over as National Forest lands these areas were heavily grazed and mismanaged. The practice of "first come, first served" resulted in the too early grazing and trampling out of the better class of forage plants. Since this area has been placed under better management, the range has very nearly regained its normal carrying capacity., Except for the timber report of June 12 by C. E. Dunston, Forest Examiner, there was practically no data concerning range conditions to be found in this office prior to the spring of 1913. Most of my time in 1912 was spent in accumulating the necessary data for a comprehensive report and general systematization of the work. It has been my aim in securing this data to follow out the system used in the Forest Service, Department of Agriculture, with which I was familiar. Prior to 1913, all field matters in grazing were handled by one man. This system was changed and each guard was placed in charge of grazing upon his district. A report was requested from him at the end of the ~~xx~~ season concerning the condition of each range. With the approval of the Superintendent, forms which were deemed necessary were designed and put into use. A set of grazing regulations were also compiled but were not put into general circulation. Guards were instructed to follow them more or less closely in the performance of their duties. Copies of counting

slips, crossing permits, range examination, and sample of field notes issued to rangers are herewith inclosed.

Ranges.

It has been my intention to secure detailed information of each range, but as yet the necessary time has not been available.

Between 2% and 5% of the land awarded to summer range users is inaccessible because of steep slopes and dense growths of reproduction. Ranges are opened to entry on June 10, and are allowed to remain until November 10. But very seldom does a range user risk remaining later than October 15 because of the uncertainty of weather conditions. In 1913 the condition of sheep on leaving the range was generally good. The summer season covers a period of 150 days. The number of days the range was actually used varied from 67 to 130. In general, permittees feed their ranges over twice. The first time it is fed over by the middle of August when the first shipment of lambs are cut out. The remaining 60% of the band is then run over the range the second time. The practice of open herding used allows the lambs to get the full benefit of the succulent forage and still leave sufficient for seeding purposes. Lambs from this Reservation are early and command top prices in the Chicago markets.

The following tables represent the class and number of range users, proportion of total range used, number of sheep, and the amount of revenue received: The actual number of cattle grazed within the forested area has been approximated at 1000. An actual count of about 800 has been made, but as it has been impossible to get the count of the entire number grazed, the

figure of 1000 is conservative. At least 2000 range horses

run upon the forested area.

Class of user.	No.	% of total range	No. grazed	Revenue received.
		Summer, 1913.		
Indian	3	31%	(Sheep 7753) (Lambs 7563)	$------
Indian	10(?)	9000 acres.	1000(?) cattle	------
White	12	69%	(Sheep 24190) (Lambs 19402)	$10,926.77
		Summer, 1914.		
Indian	5	(35% (134,699 acres)	(Sheep 8550) (Lambs 9700)	500.00 (one user)
Indian	10(?)	9,000 acres	(Cattle 1000(?)	189.00 (one user)
White	13	65% (205560 acres)	(Sheep 19232) (Lambs 20421)	13,766.00

Prior to 1914 yearly bids were taken on sheep ranges. Beginning with this past season the three-year system was put into effect. The result has been an annual increase of $2,749.23 in the revenue from summer grazing. In this report, spring and fall grazing has not been considered.

The average revenue from sheep grazing based on the receipts from white permittees for 1914 is $ .07 1 per acre. for 202,560 acres The average rate per head for 1914 was $ .385 for sheep, and $ 1.50 for cattle. The record of losses kept for 13 bands during the summer of 1913 shows the following:

LOSS					
By animals	Poisonous plants	Other causes	Total	%	% of 12 bands of count
181 head	138 head	491 head	810		1.2%

Crossing Permit
Yakima Indian Reservation

This is to certify that
Mr. _____
(Name of person or company)
of _____
has paid to me at the rate of
25¢ per day per hundred for sheep
12½¢ " " " " " lambs
($ for sheep)
($ for lambs)
determined by my actual count and is in consideration of this sum hereby granted crossing privileges to and from _____
(Name of forest or country crossed to)
along the established sheep driveways of this reservation covering a period of not more than ___ days while entering and ___ days while leaving. This permit is subject to all rules and regulations of this reservation.

Date of issuance _____

Sheep counted and permit issued byme

_____

at _____ corral

Herders name _____

Address _____

Signed _____

(Duplicate to be made for sheep owner)

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Losses through animals are largely due to bear and coyotes. The effect of poisonous plants vary with different years. Losses through other causes are usually the result of straying away in the jungles or dropping out of a drive.

Crossing Permits.

It has been the custom to allow outside sheep to cross the Reservation forest on payment of a fee of $ .25 per hundred for sheep and $ .125 per hundred for lambs for each day used in crossing. Well-defined sheep driveways are laid out for this purpose.

The receipts for crossing permits for 1913 and 1914 were as follows:

1913	17,389 sheep) 15,858 lambs)	$599.18
1914	17,796 sheep) 18,646 lambs)	661.38

Trespass.

But one case of trespass occurred in 1912, for which a fine of $90.00 was imposed. During 1914 one case each of sheep and cattle occurred for which a fine of $50.00 and $40.00 respectively was imposed.

PERMANENT IMPROVEMENTS.

The following tables for each district represents the improvements for each, their cost, rate percent of deterioration, and their estimated present value.

District No. I (Upper Soda Springs).

Proposed	Completed	Project	Cost
	1910	Improvement of pack trail 7 miles	--------(?)
	1911-13	None	
1915	1914	Telephone constr.7 miles	$240.50
		Pasture fence,40 acres	100.00

The Upper Soda Springs station is inaccessible at the present time, except by pack horse. As the station is used but three and one-half months, a cabin can be dispensed with until conditions are more favorable for its construction.

District No. 2.(Panther Creek.)

Proposed	Completed	Project	Cost
	1909-11	None	------
	1912	Wagon road, 9 miles,	$240.00
	1912	Telephone line,9 miles,	142.00
	1912	Pasture fence,60 acres,	75.00
	1913	Log Cabin 18 x 20'	319.50
	1914	Outbuildings,two,	31.00
1915	~~19x~~	None	------

By an expenditure of about $1500.00 a direct road of 22 miles can be built to this station which cannot be reached at present by wagon short of 40 miles from the Agency. It is highly advisable that this road be built, since by its use the north portion of the forest can be more easily and quickly reached.

District No. 3. (Surveyor's Creek).

Proposed	Completed	Project	Cost
	1910	None	
	1911	Log cabin 18 x 24',one story,	$310.00
	1911	Road construction,10 miles, (including 2 miles grading)	730.00
	1911	Telephone line, 10 miles,	220.00
	1912	Outbuildings, one,	12.00
	1912	Pasture fence,	48.00
1915		Outbuildings, 12 x 14; one,	20.00
	1913-14	None	

The wire purchased for pasture fences was of very poor quality. I have estimated that the life of the wire will be about seven years. In future, it is advisable that all pasture fences should be constructed of smooth galvanized iron wire, since its length of life is fully twice as long as barbed wire and will serve its purpose just as well.

District No. 4. (Signal Peak).

Proposed	Completed	Project	Cost
	1910	Pasture fence, 160 acres,	$257.50
	1910-12	Log Cabin, 1½ story, 18x24',	325.00
	1910	Log cabin, one story,	100.00(Est)
	1911	Road construction, 15⅔ miles,	450.00
	1911	Telephone line, 12 miles,	280.00
	1912	Outbuildings, one,	12.00
	1913-14	None	
1915		Outbuildings, one, 12 x 14',	20.00

District No. 5. (Vessey Springs).

	1910	Cabin, one story, 16 x 24',	100.00(Est)
	1910	Telephone line from Agency, 19 mi.	1225.00
	1910	Pasture fence, 60 acres,	100.00(Est)
	1911-13	None	
	1914	Taking up 11 miles of wire from old military road and removing to main traveled road,	260.00
	1914	Repoling of 3⅔ miles of trunk line,	142.00
	1914	Repair of Mill Creek road, 8 mi. including 2 mi. grading and filling,	417.00
1915		Repoling of 2 miles of trunk line,	90.00
1915		Completion of Mill Creek road,	250.00

The Vessey Springs cabin was originally a log stable belonging to a settler who had this site for homestead. By making the necessary improvements it was made over into a ranger station.

District No. 6. (Satus).

Proposed	Completed	Project	Cost
	1910-11	None	
	1912	Trail construction, 4 miles,	$ 40.00
	1913	Wagon road, 14 miles,	301.00
	1913	Pasture fence, 120 acres,	75.50
	1913	Telephone construction, 14 mi.	243.00
	1914	Improvements on above road,	35.00
	1914	Cabin, log, 1½ story, 18 x 20',	508.00
1915		Outbuildings, two,	21.00

District No. 7. (Summit Creek) Cedar Valley.

Proposed	Completed	Project	Cost
	1910-11	None	
	1912	Telephone line, 9 miles,	$ 162.00
	1913-14	None	
1915		Pasture fence,100 acres,	100.00

The residence of D. D. Hopper, a member of the forestry force, has been used as a station for the past three years. So long as this residence is used, another station is unnecessary. The Summit Creek station site is located but one-half mile from the present station. Lumber could be readily obtained at a near-by sawmill for the construction of a frame building for a forestry station. The cost of such a house, 1½ story, 18 x 24', would approximate $100.00.

SUMMARY OF IMPROVEMENTS.

Project	Completed	Cost	Proposed	Cost (Est.)
Cabins,	6	$1662.00	1	$200.00
Outbuildings,	4	55.00	5	75.00
Roads,	61 miles	24.97	28 miles	1700.00
Telephone lines,	87 "	$139.00	-----	-------

ESTIMATE FOR 1915.

1. Outbuildings, two,	$21.00
2. Telephone repair, repoling of line,	90.00
3. Road construction,	250.00
4. Driving team for Deputy Supervisor of Forests,	350.00
5. Work team for general forestry purposes,	400.00
6. Equipment for lookout stations, four,	100.00
7. Fire tools and other equipment,	190.00
	1401.00

Lookout Stations.

One of the most important subjects discussed at the meeting of Forest Supervisors held in Portland in January, 1914, was the matter of fire prevention. The use of fire locators, consisting of a map and protractor, properly oriented on a stationary table, and accompanied by an alidade of brass had been tried out with

gratifying success. These could be used to good advantage upon this Reservation. From inquiries made at the time, the cost was found to be about $25.00 for each set. With this equipment, fires are located by the intersection of two lines of sight from two different lookouts.

Fire fighting equipment.

The forest is deficient in fire fighting equipment. A complete set of proper tools, together with other necessary equipment, for at least six men, should be placed at each station to be used only in case of fire.

Maps.

The map of this Reservation is very incomplete from the forestry standpoint. During the winter of 1913 a map was made and submitted to the Office. This map was revised to show the present land status and completed forest improvements. This map was based upon the present reservation map and the Mt. Adams quadrangle of the U. S. G. S. Owing to the lack of the necessary data upon the present map, I feel that it should be revised to become up to date.

Driving equipment.

During the spring and fall months, a large amount of maintenance and construction work is done by the forestry force. The teams heretofore furnished by the Agency have been too light for this work. A good draught team is in demand at all times during spring and fall work and while fighting forest fires. During this past season a heavy team furnished us was invaluable to the forest while fighting fires.

Forest Supervision
Duties of Guards

7/10/14

To All Forest Guards:

The following instructions are issued for your information and guidance while located upon your respective districts. Please follow them as closely as possible. Summary action will be taken in the case of any guard neglecting them without justifiable reasons.

Leave of Absence

A reasonable length of time will be allowed each month for the securing of supplies. At the time of leaving the guard should be sure that his district is free from fire. The office or Deputy Supervisor should be notified in advance of any absence from District headquarters for twenty four hours or more.

Telephone Repair

It is the duty of every guard to keep his telephone line in working order. Lines upon the district should be tested daily by calling up other stations.

Reports

Each guard shall report to the Agency Office every Tuesday and Friday of the week; reporting all happenings of interest or moment. If there is nothing of interest

do not let this serve as a reason for not reporting. Only in case of absence from headquarters should this report be delayed.

Range Investigations

Each band of sheep within your district should be visited at least once every two weeks with a view to investigating the condition of ranges used, the condition of camps, bedding grounds, springs and salt grounds. Information pertaining thereto may be called for at any time.

Camping, Hunting, Fishing

Permission cannot be granted to anybody not an Indian to camp, fish, or hunt upon the reservation lands.

Fires

The keeping down of forest fires within your district is of primary importance. This is your most important duty and should take precedence over all other lines of work. Patrol and the visiting of lookouts should be a daily duty unless weather conditions are such that fires are not apt to run. From 10.00 to 12.00 o'clock in the for noon is the best time of the day to visit a lookout station, since at this time the atmosphere is usually the clearest.

When a fire is located it should be attended to at once. This does not mean discovery of a fire today and a visit to it the following day. If convenient, the office or Deputy Supervisor should be notified in advance of the visit to the

visit to the fire. If a fire is found too large to be handled alone no time should be lost in estimating the size of the burning area, the damage apt to be done, tools, supplies and men needed and reporting the same to the office.

Any fire discovered in a district not your own should be immediately reported to the guard having charge of such district. In case of the absence of a guard on official business or by permission from the office, it will be the duty of the guard nearest such fire to attend to it as if it were on his own district until such time as the other guard may return. Where a fire is equally accessible from two stations and is of sufficient size to require the attention of two men, it will be the duty of both the guards concerned to visit the place unless the guard on the outside district is otherwise employed.

In case of any fire the entire burning area should be investigated to determine the size, direction burning fastest and where the most damage is apt to be done. All open places should be taken advantage of for building fire lines. It is always well to take a water ~~bukk~~ bag and at least a lunch with you when visiting even the smallest fires.

Reports

A daily report must be kept of all happenings and at the end of the month a summary service report and all fire

reports for the month will be due.

Telephone Rings

Agency call - - - - - - - - - -one long

Signal Peak call- - - - - - - -two long

Veseay Springs- - - - - - - - -three long

Cedar Valley- - - - - - - - - -two short and one long

Satus Station - - - - - - - - -one short and two long

Surveyors Creek - - - - - - - -one short, one long, one short

Panther Creek- - - - - - - - -one long,one short,one long

Upper Soda Springs- - - - - -one long, two short

General call for all guards -five rings

DON M. CARR,

Superintendent.

Transportation facilities for myself during the past two years have been unsatisfactory. The team furnished for general forestry purposes was not broken to the saddle, and therefore was unsuited for my purpose. This has necessitated my using a saddle horse. Considering the nature of the work, this method of travel is a handicap in the performance of my duties. A gentle driving team, broken to ride, is a very necessary addition to my equipment.

DISTRICT DIVISION.

Not until the spring of 1912 was district division for forest guards given consideration. In 1911 one guard was placed on the south side to handle the fire problem, while the remainder of the force was employed in construction work.

It is inadvisable to make less than seven administrative units or districts. Not only is the topography a factor which prevents equal division of districts, but the amount of work on each varies. The size of the area of each district was largely based upon the following consideration:

1. Accessibility of the country from different headquarters.
2. Fire danger.
3. Amount of grazing inspection.
4. Maintenance work necessary.

The following is a list of the districts, together with the area of each:

District No. I,	Upper Soda Springs,	52,000 acres
" " II,	Panther Creek,	118,000 "
" "III,	Surveyor's Creek,	47,000 "
" " IV,	Signal Peak,	61,000 "
" " V,	Vessey Springs,	74,000 "
" " VI,	Satus	110,000 "
" "VII,	Summit Creek, (Cedar Valley)	61,000 "
		523,000 "

UNITED STATES INDIAN(Forest)SERVICE

Appointment of Forest Guards

Please fill in the blank spaces below and return to Don M. Carr, Superintendent, Yakima Agency, Fort Simcoe, Wash.

Give full name._____ Nationality_____

Address_____ Age_____ Height_____ Weight_____

Married or single_____, Sound in body, sight, hearing?_____

If defective in any explain_____

_____

What experience have you had in timber work?

_____

What experience have you had in grazing work?

_____

What has been the nature of your work during the past two years?

_____

Have you ever held a Government position?_____ If so where_____,

When_____, Of what nature_____

What has been the extent of your schooling?_____

_____

If you have a trade what is its nature?_____

Have you a pack outfit?_____ Will you obtain one?_____
(At least one saddle and one pack horse with equipment is required)

Give three references whom we may consult if necessary.

NAMES REFERRED TO	THEIR ADDRESSES
_____,	_____
_____,	_____
_____,	_____

Give any additional information which may fit you for this position, (extra sheet of paper may be used if necessary)

(Applications will be considered about March 15).

JBS

MONTHLY REPORT OF FOREST OFFICERS

For the month of _____, 191__

I hereby certify that the following is an accurate record of the days on duty during the month of _____.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	

Sundays not worked mark with "

Total days on duty ____. Total days off duty ____

---------oOo---------

NUMBER OF DAYS SPENT ON EACH KIND OF WORK

1. Telephone _____ days
(write in construction, repair or both)

2. Road _____ days
(write in construction or repair)

3. Patrol duty _____ days
(fires, camping, lookout, etc.)

4. Fire fighting _____ days

5. Grazing _____ days
(write in range inspection, counting, etc.)

6. _____ days

7. _____ days

Signed _____

Title _____

JBS

ADMINISTRATIVE AND MAINTENANCE COST.

From figures taken during the seasons of 1913 and 1914 the cost of maintenance is chargeable as follows:

	1913	1914
1. Construction work	27%	22.8%
2. Fire patrol,	25.5%	22.8%
3. Grazing,	20%	15.3%
4. Fire fighting	13%	18%
5. Miscellaneous time spent,	10%	12.5%
6. Telephone repair,	4%	3.9%
7. Road repair,	2.5%	4.7%

The cost of maintenance by the forestry force covering six months time for myself and five months for seven guards is as follows; for 523,000 acres:

1. Telephone, repair and upkeep, 82 miles,	$1.65 per mile
2. Road repair and upkeep, 85 miles,	1.47 " "
3. Grazing,	.0012 per acre
4. Fire fighting,	.0010 " "
5. Fire patrol,	.0015 " "
6. Construction work,	.0017 " "
7. Miscellaneous duties,	.0007 " "

The average cost of field administration for the past two years is $ .0068 per acre. Equipment purchased and irregular labor hired in construction work raised this figure to $ .008 per acre for 1913 and $ .0093 per acre for 1914. The total income from the forest during 1914 has been $15,265.00. Of this sum, $1,267.00 or 8.7% was used for forestry purposes. The balance of $3,782.00 used was paid from Industrial Work and Care of Timber.

In selecting men for the position of Forest Guard, the aim has been to choose them according to their knowledge of the following subjects:

1. Experience had in grazing,
2. Experience had in timber,
3. Experience had in handling of forest fires,

(Fig.1) Mt. Adams from the east side of Mt. Adams Lake, Sept. (Looking southwest)

(Fig.2) Sheep counting at Atahnum Ridge corrals. June.

(Fig.3) Construction camp at Swamp Meadows, June.

(Fig.4) Construction crew on road and telephone work May.

(Fig. 5.) Construction crew on Logie Creek grade, May.

(Fig.6.)Example of open stretches of grass land near lower limits of the coniferous forest.(Dry Cr.,looking west to Mt. Adams) May.

(Fig.7) Klickitat River(Soda Ford) August.

(Fig.8) Mixed pine and fir stand,4000 feet el. October 15th.

(Fig.9) Example of 1910 fire killed timber, north and east slopes of Fish Lake(Looking Southwest to Fish Lake about 1,000 feet below) August.

(Fig.10)Example of fire killed timber of twenty or more years standing.Caused by sheepmen in early history of grazing. Sec.3, T10N,R12E. 1,000 or more acres in this burn.Sept.

(Fig.11) Insect killed timber of 1893-95. Several fires in this timber during the past summer. Reproduction usually better than here shown. June.

(Fig.12) Upper Soda Springs station, District No.1. August.

(Fig.13)Panther Creek station, District No.II. August.

(Fig.14)Surveyors Creek station. District No.III. September.

(Fig.15)Signal Peak station, District No.IV. August.

(Fig.16) Serious results to reproduction of fire in dead and down yellow pine.Seedlings and saplings adjacent to partially burned trees entirely destroyed,but still standing. Fire of 1910. July.